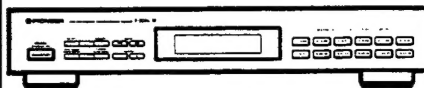


Service Manual



ORDER NO.
ARP2790

FM/AM DIGITAL SYNTHESIZER TUNER

F - 202L

F - 202

F - 202L AND F - 202 HAVE THE FOLLOWING:

Type	Model		Power Requirement	Remarks
	F-202L	F-202		
HEX1K	○	—	AC220V—230V, 240V (switchable)*	
HBX1K	○	—		
HEWZX1K	—	○		
HEWIX1K	—	○		

* Change the connection of the power transformer's primary wiring.

- This manual is applicable to the following: F - 202L/HEX1K and HBX1K; F - 202/HEWZX1K and HEWIX1K.
- For the following: F - 202L/HBX1K; F - 202/HEWZX1K and HEWIX1K, refer to page 21.
- F - 202L covers MW/LW bands while F - 202 covers MW.

CONTENTS

1. SPECIFICATIONS	2
2. BLOCK DIAGRAM	3
3. EXPLODED VIEWS, PACKING AND PARTS LIST ...	4
4. PCB PARTS LIST	7
5. SCHEMATIC AND PCB CONNECTION DIAGRAMS	9
6. ADJUSTMENTS	19
7. FOR F-202L/HBX1K, F-202/HEWZX1K AND HEWIX1K	21
8. PANEL FACILITIES	28

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FK MAY 1993 Printed in Japan

1. SPECIFICATIONS

FM Tuner Section

Frequency range	87.5 MHz to 108 MHz
Usable Sensitivity (IHF)	12.7 dBf (1.2 μ V/75 Ω)
50 dB Quieting Sensitivity	Mono: 18 dBf (2.2 μ V/75 Ω)
	Stereo: 38.3 dBf (22.6 μ V/75 Ω)
Sensitivity (DIN)	Mono: 1.0 μ V/75 Ω
	Stereo: 35 μ V/75 Ω
Signal-to-Noise Ratio	Mono: 78 dB (at 85 dBf)
	Stereo: 74 dB (at 85 dBf)
Signal-to-Noise Ratio (DIN)	Mono: 62 dB
	Stereo: 60 dB
Distortion	0.3 % (1 kHz)
Alternate Channel Selectivity	60 dB (300 kHz)
Stereo Separation	40 dB (1 kHz)
Frequency Response	30 Hz to 15 kHz \pm 1 dB
Image Response Ratio	50 dB
IF Response Ratio	90 dB
Antenna Input	75 Ω unbalanced
Output	650 mV/2.7 k Ω (100 % MOD.)

MW (AM) Tuner Section

Frequency range	531 kHz to 1,602 kHz
Sensitivity (IHF, Loop antenna)	350 μ V/m
Selectivity	20 dB
Signal-to-Noise Ratio	50 dB
Antenna	Loop Antenna
Output	150 mV/2.7 k Ω (30 % MOD.)

LW Tuner Section

Frequency range	153 kHz to 281 kHz
Sensitivity (IHF, Loop antenna)	1,500 μ V/m
Antenna	Loop Antenna
Output	150 mV/2.7 k Ω (30 % MOD.)

Miscellaneous

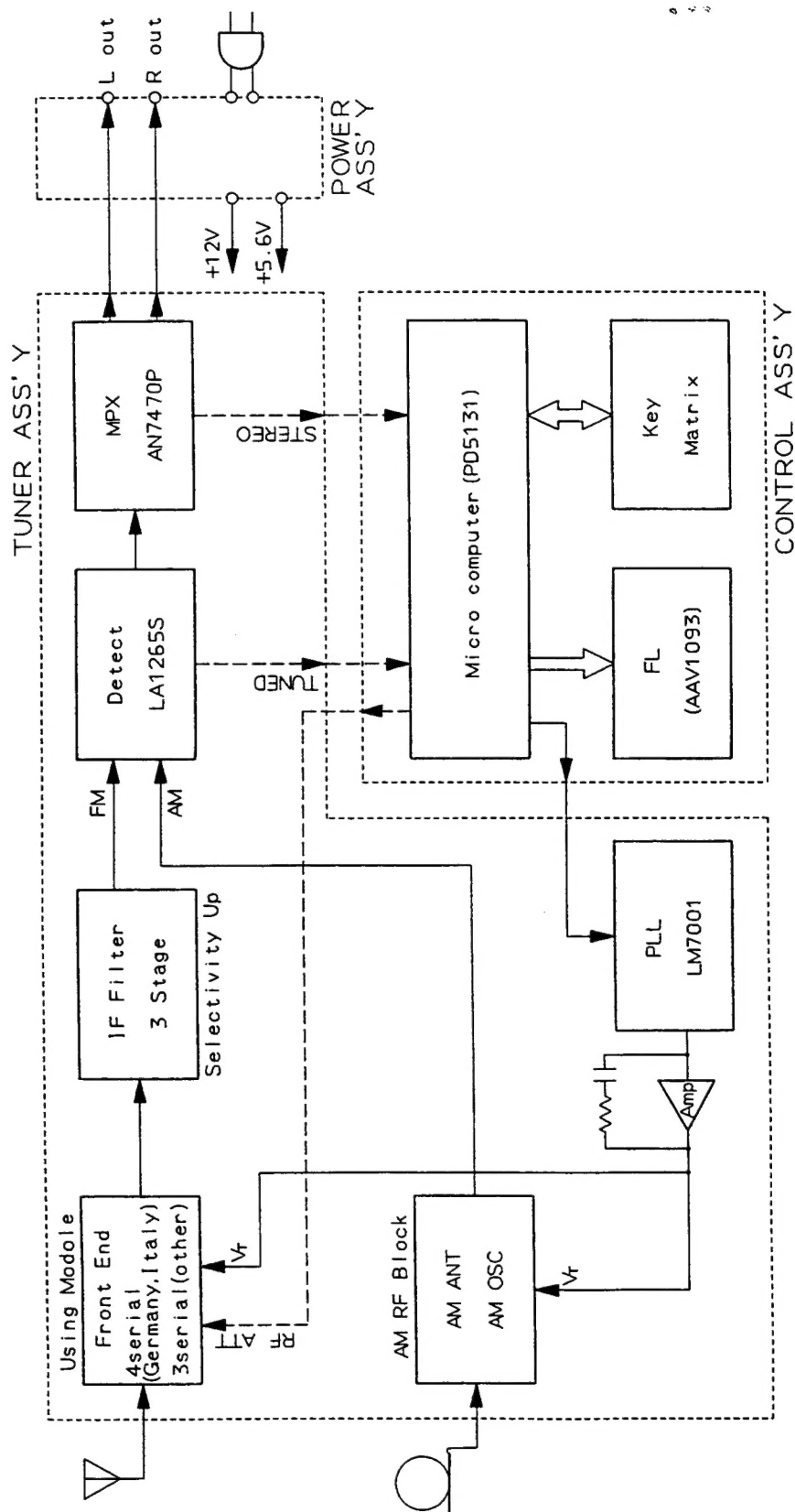
Power Requirements	a.c. 220 — 230 Volts ~, 50/60 Hz
Power Consumption	10 W
Dimensions	420 (W) x 75.5 (H) x 284 (D) mm
Weight (without package)	2.6 kg

Furnished Parts

FM T-type antenna	1
AM loop antenna	1
Connecting cord with pin plugs	1
Operating instructions	1
Control cord	1

NOTE:
Specifications and design are subject to possible modification without notice due to improvements.

2. BLOCK DIAGRAM

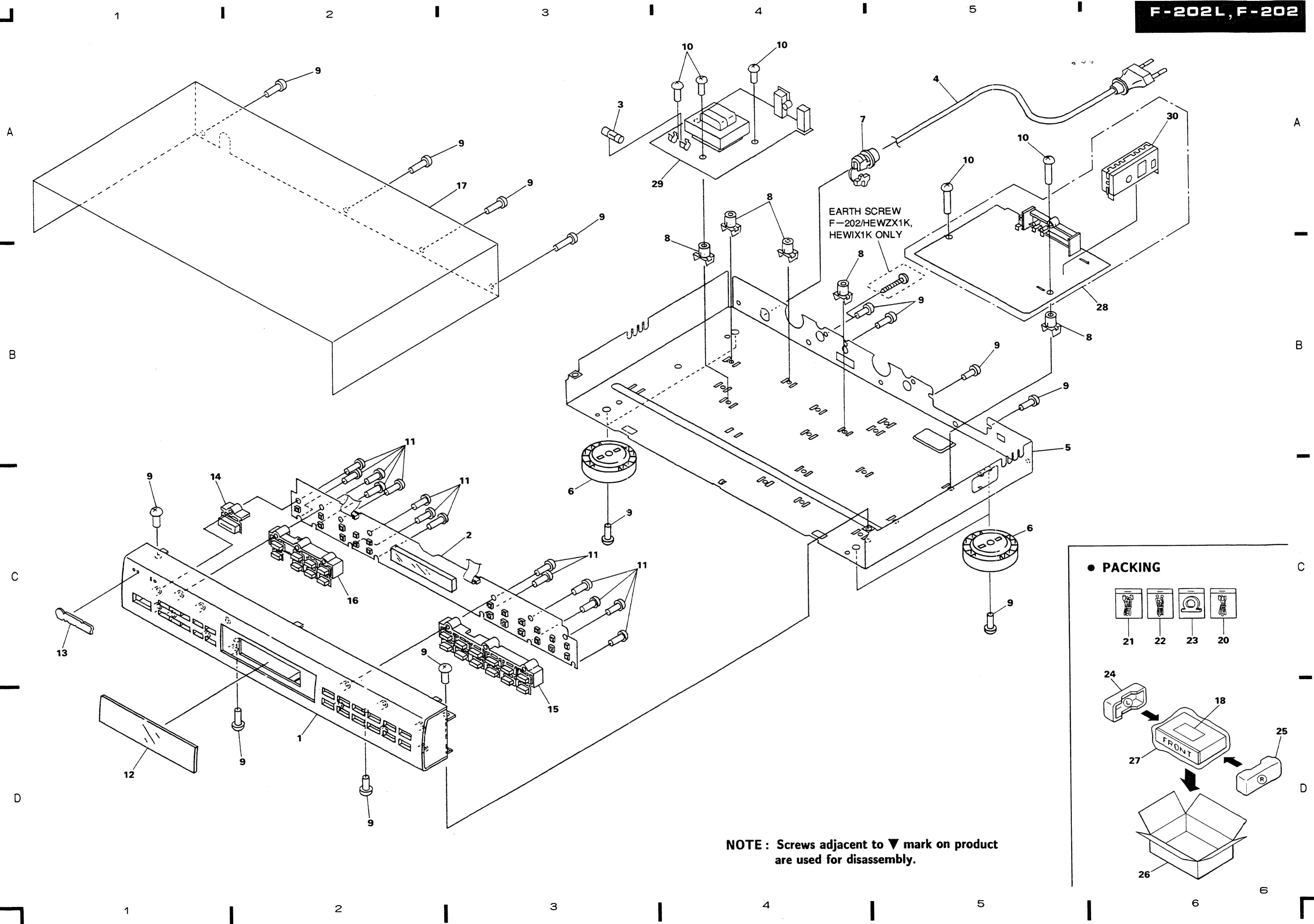


3. EXPLODED VIEWS, PACKING AND PARTS LIST

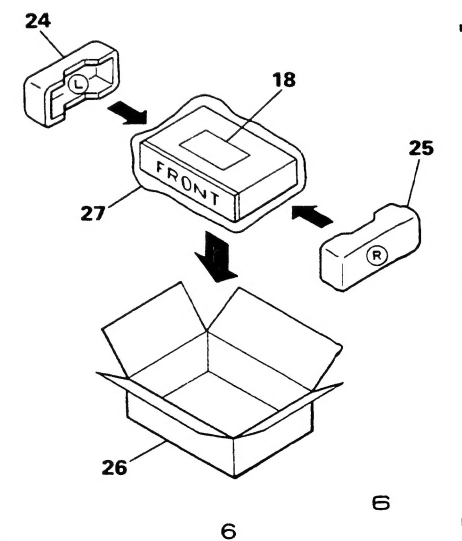
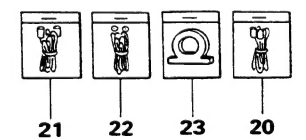
NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Mark	No.	Description	Parts No.
	1	FRONT PANEL	AMB2149
	2	CONTROL ASSEMBLY	AWP1049
Δ	3	FU1 (T400mA,250V)	AEK1044
Δ	4	AC POWER CORD	ADG1138
NSP	5	CHASSIS	ANA1122
	6	INSULATOR ASSEMBLY	AMR2140
Δ	7	STRAIN RELIEF	AEC—882
NSP	8	PCB MOULD	AMR1525
	9	SCREW	ABA—298
	10	SCREW	ABA1018
	11	SCREW	BBZ26P100FMC
	12	PANEL	AAK2466
	13	NAME PLATE (METAL)	AAM1058
	14	POWER BUTTON (ABS)	AAD2425
	15	STATION BUTTON (ABS)	AAD2426
	16	BAND BUTTON (ABS)	AAD2428
	17	BONNET(FE)	ANE1430
	18	OPE. INSTRUCTIONS (English/German/French/Italian/ Swedish/Dutch/Spanish/Portuguese)	ARE1278
	19	.....
	20	CONNECTION CORD WITH PIN PLUG	ADE—052
	21	CONNECTION CORD WITH MINI PLUG	ADE—085
	22	FM ANTENNA	ADH1005
	23	LOOP ANTENNA	ATB1006
	24	STYROL PROTECTOR L	AHA1602
	25	STYROL PROTECTOR R	AHA1603
	26	PACKING CASE	AHD2550
	27	PACKING SHEET	AHG1107
	28	TUNER ASSEMBLY	AWZ4971
	29	POWER ASSEMBLY	AWZ4976
	30	3 SERIAL F.E.MODULE ASSEMBLY	AXQ1003



● PACKING



4. PCB PARTS LIST

- NOTES:
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
 - The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 - Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
 - When ordering resistors, first convert resistance values into code form as shown in the following examples.
- Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).
- 560 Ω \rightarrow 56 $\times 10^1$ \rightarrow 561 RD1/8PM $\boxed{561}J$
- 47k Ω \rightarrow 47 $\times 10^3$ \rightarrow 473 RD1/4PS $\boxed{473}J$
- 0.5 Ω \rightarrow 0R5 RN2H $\boxed{0R5}K$
- 1 Ω \rightarrow 010 RS1P $\boxed{010}K$

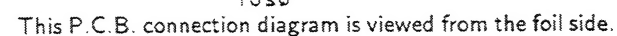
Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω \rightarrow 562 $\times 10^1$ \rightarrow 5621 RN1/4PC $\boxed{5621}F$

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
LIST OF ASSEMBLIES							
NSP	TUNER ASSEMBLY		AWE1278		C142		CEAS3R3M50
	└ TUNER ASSEMBLY		AWZ4971		C135,C150		CEAS470M10
	└ POWER ASSEMBLY		AWZ4976		C123		CEAS4R7M50
					C144		CEASR22M50
					C112		CFTXA224J50
	CONTROL ASSEMBLY		AWP1049		C107		CKDYB103K50
					C124		CKDYB222K50
					C153,C154		CKDYB682K50
					C132		CKDYF103Z50
					C4,C122,C130,C131		CKDYF223Z50
TUNER ASSEMBLY							
SEMICONDUCTORS							
	IC103		AN7470P		C2		CKDYX103M25
	IC102		LA1265S		C125,C146		CKDYX473M25
	IC101		LM7001		C3		CKPUYB101K50
	Q116		2SA933S		C101,C102		CKPUYB102K50
	Q103,Q112,Q114,Q115		2SC1740S		C147		CKPUYB121K50
	Q111		2SC1740SLN		C134		CKPUYB331K50
	Q101,Q102		2SC2668		C108,C110		CKPUYF473Z16
	Q110		2SK246		C103,C104,C106,C113,C114,		CKPUYY103M16
	Q104,Q106,Q108		DTA124ES		C116,C129,C136,C145		
	Q105,Q107,Q109,Q118		DTC143ES		C148,C149		CQMA102J50
	D102-D108		1SS252	RESISTORS			
					VR101 (4.7K)		ACP1042
					VR102 (10K)		ACP1043
					VR103 (22K)		ACP1044
					Other Resistors		RD1/8PM□□□J
COILS, FILTERS							
	L102		ATE-079				
	L103		LAU2R2K				
	F103		ATF-107				
	F101,F102		ATF-119				
	F104		ATF-208				
CAPACITORS							
	C141 (470P,50V)		ACE1039				
	C109,C117,C118		CCDCH150J50		X101	AM RF TUNING BLOCK	AXX1026
	C115,C119-C121		CCPUSL470J50			CRYSTAL RESONATOR	ASS1042
	C138		CEANP4R7M50		X102	CERAMIC RESONATOR	ATF1027
	C133		CEAS010M50			ANTENNA TERMINAL 4-P	AKA1010
	C127		CEAS100M50		CN2	CONNECTOR(9P)	KPE9
	C128,C137		CEAS101M16			3 serial F.E. Module ASSY	AXQ1003
	C143		CEAS1R5M50				
	C126,C151,C152		CEAS2R2M50				
	C111		CEAS330M16				

Note: 3 serial F.E. Module ASSY has no service part.

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
POWER ASSEMBLY			CONTROL ASSEMBLY		
SEMICONDUCTORS			SEMICONDUCTORS		
IC301		MC7812CT	IC201		PD5131 — A
Q301		2SA1529	Q203		2SC1740S
Q117,Q305,Q401		2SC1740S	Q202		DTC124ES
Q304		2SC1845	Q201		DTC143ES
Q302		DTA143ES	D201 — D207		1SS252
Q303,Q306		DTC143ES	SWITCHES		
D306,D401		1SS252	S201 — S221		ASG1034
D305		RD6.2ESB	CAPACITORS		
D301 — D304		S5566	C208		CEJA221M6
TRANSFORMER			C203		CEJA470M16
△ T301		ATT1226	C204		CEJAR47M50
CAPACITORS			C207		CKDYX473M25
△ C303 (0.047, 25V)		ACG — 009	C206		CKPUYB101K50
C304		ACH1135	C205		CKPUYB102K50
C301		CEAS101M16	C201,C202		CKPUYY103M16
C302		CEAS222M35	RESISTORS		
C308		CEAS330M16	R201,R203		RA13T103J
C305,C306		CEAS470M10	R202		RA4T103J
C307,C402		CKPUYB101K50	Other Resistors		RD1/8PM□□□J
RESISTORS			OTHERS		
All Resistors		RD1/8PM□□□J	X201	CERAMIC RESONATOR (4.19MHz)	ASS1018
OTHERS			V201	FL TUBE	AAV1093
PIN JACK(2P)		AKB1039			
CN3 JACK		AKN1006			
CN1 CONNECTOR(10P)		KPE10			
SCREW		ABA1012			



This P.C.B. connection diagram is viewed from the parts mounted side.

A

Line Voltage Selection

Line Voltage can be changed as follows:

1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the connection of POWER ASSY primary pins.
4. Stick the line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label

NOTE

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

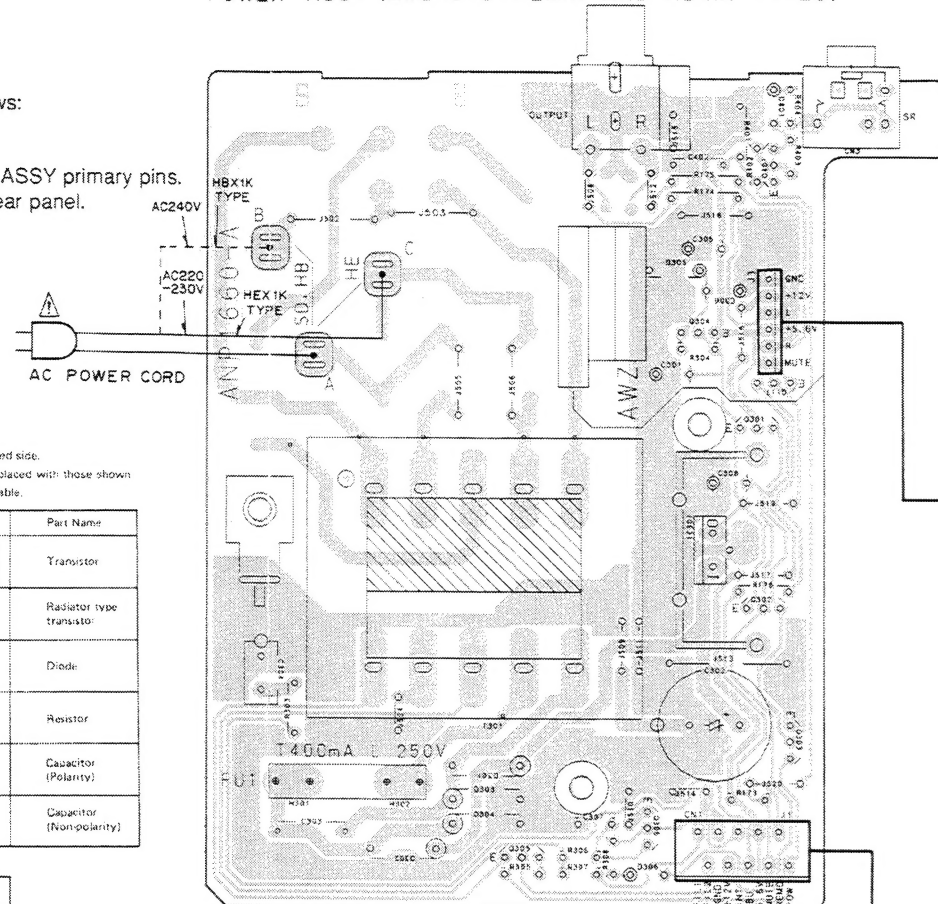
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
		Transistor
		Radiator type transistor
		Diode
		Resistor
		Capacitor (Polarity)
		Capacitor (Non-polarity)

Others

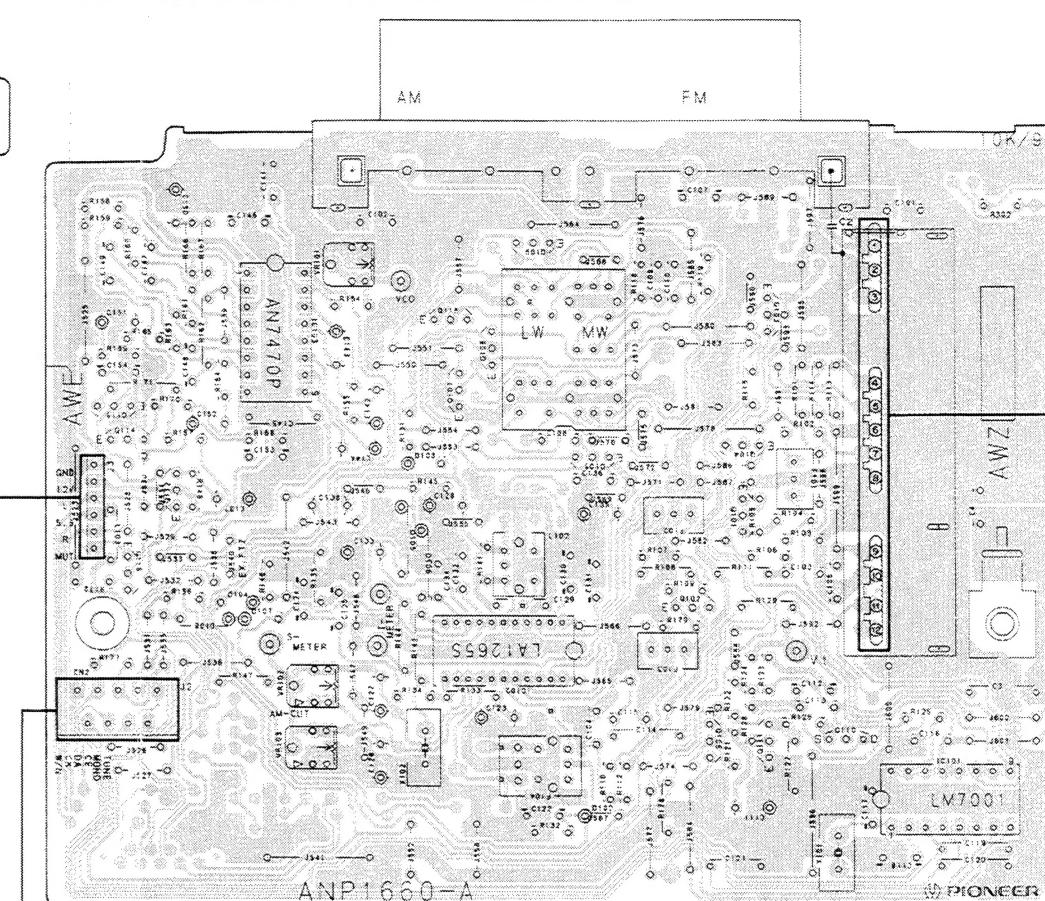
P.C.B. pattern diagram indication	Part Name
	IC
	Switch
	Relay
	Coil
	Filter
	Variable resistor or Semi-fixed resistor

3. The capacitor terminal marked with (double circles) shows negative terminal.
4. The diode terminal marked with (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

POWER ASSY (AWZ4976:HEX1K AND HBX1K TYPES)

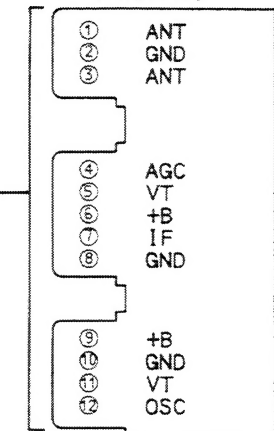


TUNER ASSY (AWZ4971:HEX1K AND HBX1K TYPES)



PCB-1

FE MODULE ASS'Y (AXQ1003)



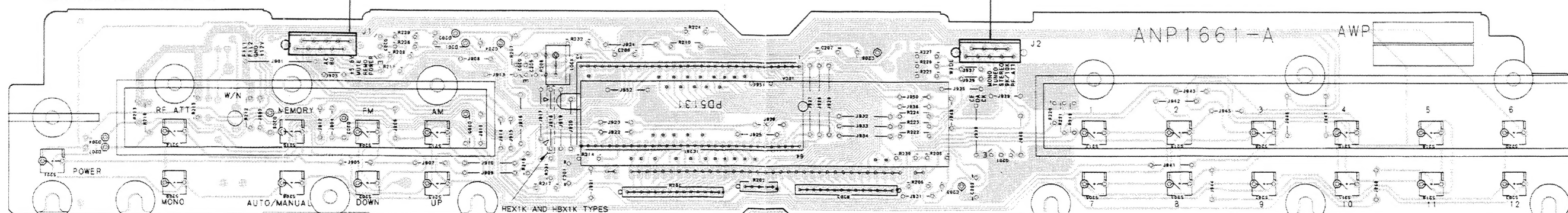
B

B

C

C

CONTROL ASSY (AWP1049)



Q203

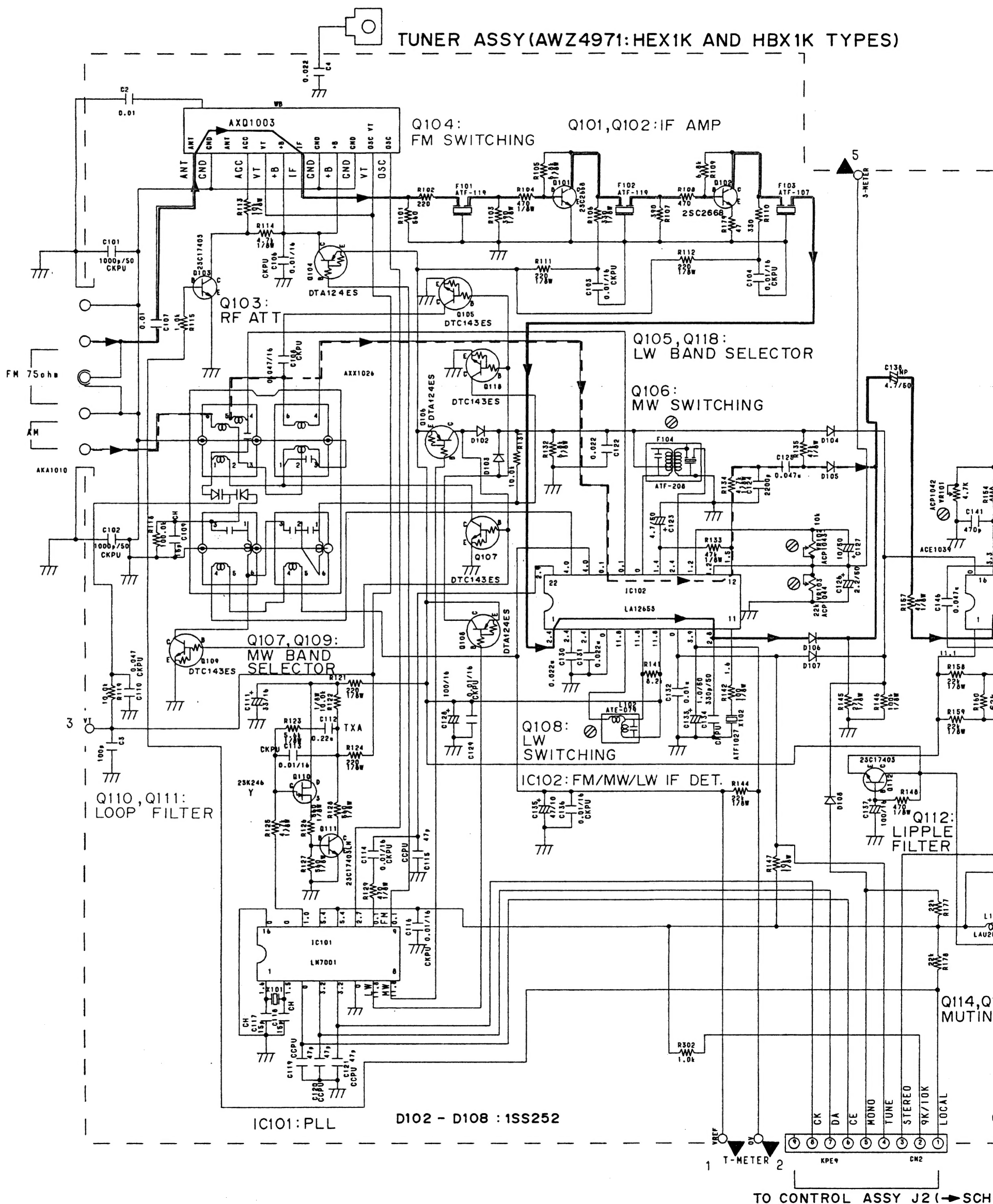
Q202

IC201

Q201

5.2 SCHEMATIC DIAGRAM OF TUNER AND POWER ASSEMBLIES (FOR F-202L/HEX1K AND HBX1K)

Note: For F-202/HEWZX1K and HEWIX1K, refer to SCH-3.



SCH-1

TUNER,
POWER ASSY

EX1K AND HBX1K TYPES)

2:IF AMP

Q05, Q118:
W BAND SELECTORQ06:
W SWITCHING

W IF DET.

Q112:
LIPPLE FILTERQ114, Q115:
MUTING

Q116: MUTE SWITCH

TO CONTROL ASSY J2 (→SCH-2)

Note:

(Type 3)

1. When ordering service parts, be sure to refer to "PARTS LIST OF EXPLODED VIEWS" or "PCB PARTS LIST".

2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

3. RESISTORS:
Unit: k: kΩ, M: MΩ, or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.

4. CAPACITORS:
Unit: p: pF or μF unless otherwise noted.
Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
Rated voltage: 50V except for electrolytic capacitors.

5. COILS:
Unit: m: mH or μH unless otherwise noted.

6. VOLTAGE AND CURRENT:
mV : Signal voltage at FM 1kHz, 100% MOD.
V : DC voltage (V) at no input signal unless otherwise noted.
Value in () is DC voltage at rated power.
mA or - mA : DC current at no input signal unless otherwise noted.

7. OTHERS:
• → : Signal route.
• ⊙ : Adjusting point.
• ▼ (Red) : Measurement point.
• The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

8. SWITCHES (Underline indicates switch position)

CONTROL ASSEMBLY

S201 : 8
S202 : TUNING(DOWN)
S203 : 12
S204 : BAND(FM)
S205 : 7
S206 : 3
S207 : 9
S208 : AUTO/MANUAL
S209 : MONO
S210 : 4
S211 : 10
S212 : BAND(AM)
S213 : TUNING(UP)
S214 : RF ATT
S215 : 2
S216 : 11
S217 : 1
S218 : 5
S219 : MEMORY
S220 : 6
S221 : POWER(STANDBY/ON)

9. For SCH - □ on the schematic diagram
SCH - □ indicates the drawing number diagram.
(SCH stands for schematic diagram.)

— : FM SIGNAL LINE
- - - : AM SIGNAL LINE

POWER ASSY (AWZ4976: HEX1K AND HBX1K TYPES)

Q302:
SWITCHINGIC301, Q301, Q304:
REGULATOR

Q401:

BUFFER

Q303, Q305:
POWER DETECTOR

Q117: MUTE SWITCHING
D301 - D304 : S5566
D306, D401 : 1SS252

POWER

Note:

(Type 3)

1. When ordering service parts, be sure to refer to "PARTS LIST OF EXPLODED VIEWS" or "PCB PARTS LIST".

2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

3. RESISTORS:Unit: k: k Ω , M: M Ω , or Ω unless otherwise noted.

Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.

Tolerance: (F): $\pm 1\%$, (G): $\pm 2\%$, (K): $\pm 10\%$, (M): $\pm 20\%$ or $\pm 5\%$ unless otherwise noted.**4. CAPACITORS:**Unit: p: pF or μ F unless otherwise noted.Ratings: capacitor (μ F)/ voltage (V) unless otherwise noted.

Rated voltage: 50V except for electrolytic capacitors.

5. COILS:Unit: m: mH or μ H unless otherwise noted.**6. VOLTAGE AND CURRENT:**

mV: Signal voltage at FM 1kHz, 100% MOD.

V: DC voltage (V) at no input signal unless otherwise noted.

Value in () is DC voltage at rated power.

mA or -mA: DC current at no input signal unless otherwise noted.

7. OTHERS:• \rightarrow : Signal route.• \odot : Adjusting point.• \blacktriangledown (Red): Measurement point.• The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.**8. SWITCHES** (Underline indicates switch position):**CONTROL ASSEMBLY**

S201: 8
S202: TUNING(DOWN)
S203: 12
S204: BAND(FM)
S205: 7
S206: 3
S207: 9
S208: AUTO/MANUAL
S209: MONO
S210: 4
S211: 10
S212: BAND(AM)
S213: TUNING(UP)
S214: RF ATT
S215: 2
S216: 11
S217: 1
S218: 5
S219: MEMORY
S220: 6
S221: POWER(STANDBY/ON)

9. For SCH-1 on the schematic diagram

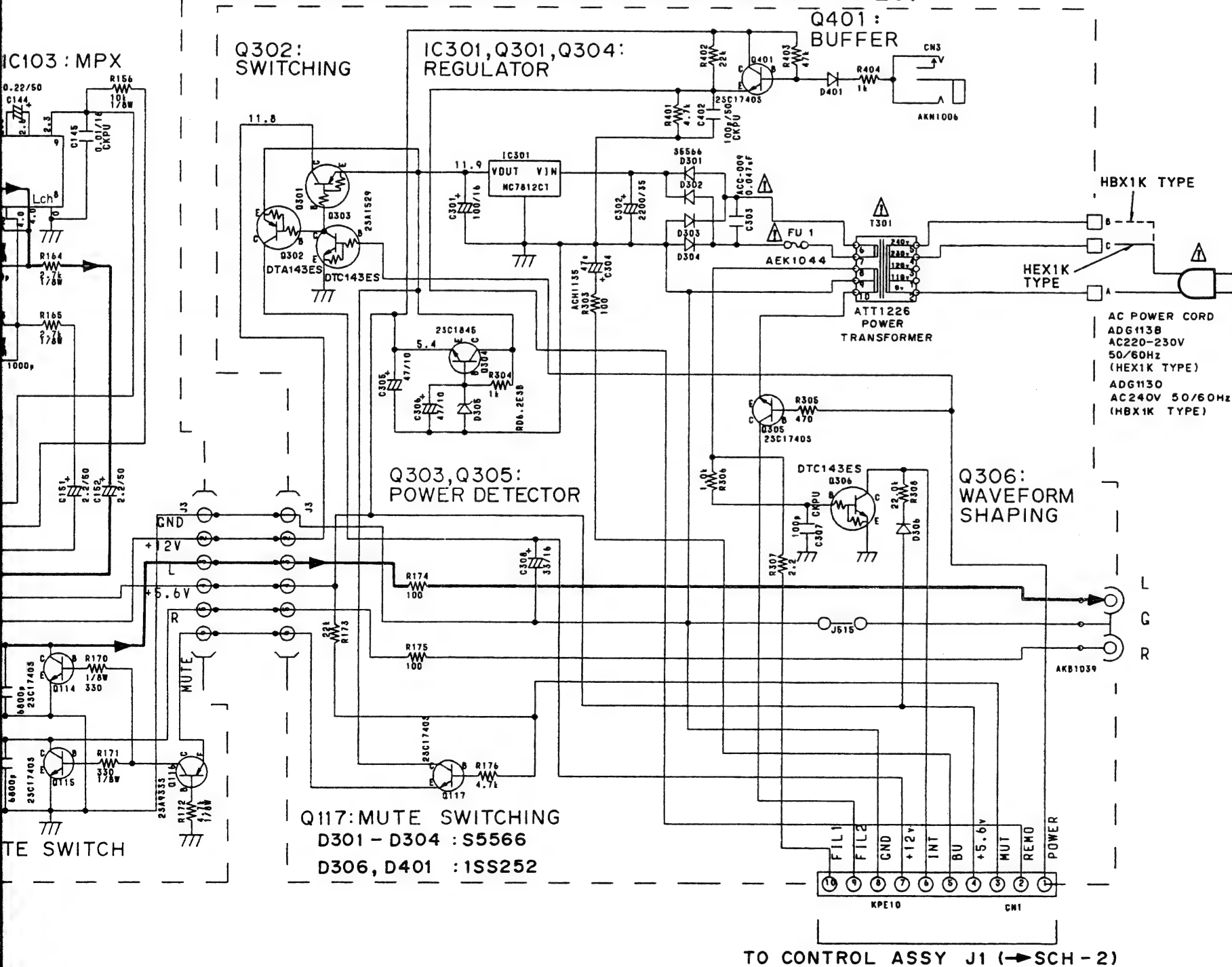
SCH-1 indicates the drawing number of the schematic diagram.

(SCH stands for schematic diagram.)

SCH-1

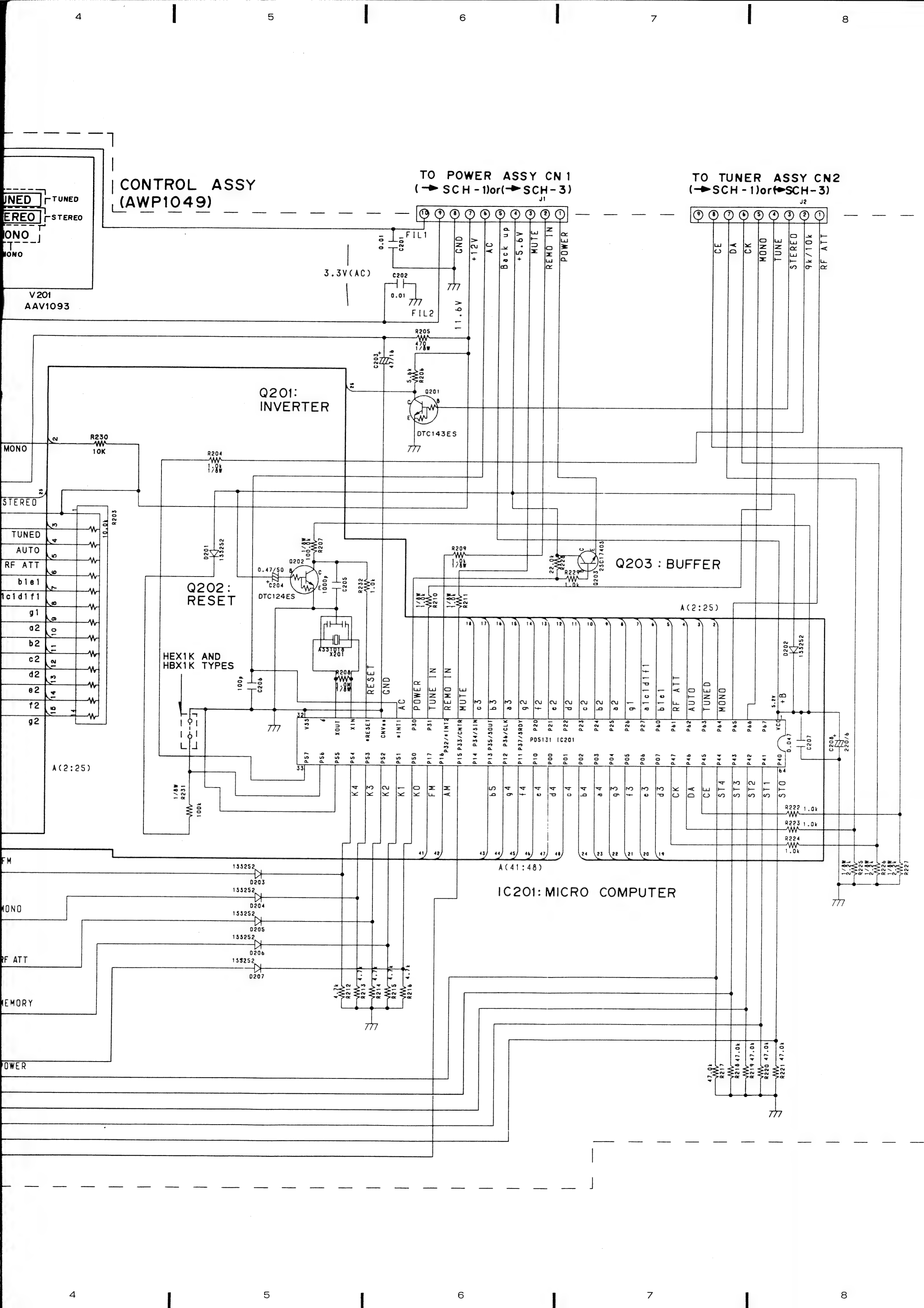
—: FM SIGNAL LINE

---: AM SIGNAL LINE

POWER ASSY (AWZ4976: HEX1K AND HBX1K TYPES)TUNER,
POWER ASSY

SCH-1

F



6. ADJUSTMENTS

6.1 ADJUSTMENT OF THE FM TUNER SECTION

- Set the mode selector to FM BAND.
- Connect the wiring as shown in the Fig. 1.

Step No.	Adjustment Title	FM SG(1kHz, ± 75 kHz dev.)		Reception Frequency Display	Adjustment	
		Frequency(MHz)	Level(dB μ V)		Adjustment Location	Specifications
1	Center adjustment* ¹	98.0	60	98.0MHz	L102	Adjust so that the voltage between the TP - 1 and TP - 2 becomes $0V \pm 50mV$.
2	VCO adjustment	Non-modulation	60	98.0MHz	VR101	Adjust so that the output of the TP - 4 becomes $76kHz \pm 0.5kHz$.
3	TUNED IND. Lighting level	98.0* ² (Stereo modulation)	15 ($\pm 3dB$)	98.0MHz	VR103	Adjust so that the indicator lights up.

*1: When FE module assembly has been replaced, make sure to adjust the center adjustment.

*2: Stereo modulation : Main; 1kHz, L+R, $\pm 68.25kHz$ dev.

Pilot; 19kHz, $\pm 6.75kHz$ dev.

6.2 ADJUSTMENT OF MW TUNER SECTION

- Set the mode selector to MW BAND.
- Connect the wiring as shown in the Fig. 1.

Step No.	Adjustment Title	AM SG(400Hz, 30% Mod.)		Reception Frequency Display	Adjustment	
		Frequency(kHz)	Level(dB μ V/m)		Adjustment Location	Specifications
1	Tracking adjustment * ¹	603	Weak input	603kHz	MW ANT. coil	Adjust so that the voltage between the TP-5 and GND becomes maximum.
2		1395		1395kHz	TC101	
3	IF adjustment * ¹	603		603kHz	F104	
4	TUNED IND. Lighting level	999	55($\pm 5dB$)	999kHz	VR102	Adjust so that the indicator lights up.

*1: F-202/HEWIX1K only

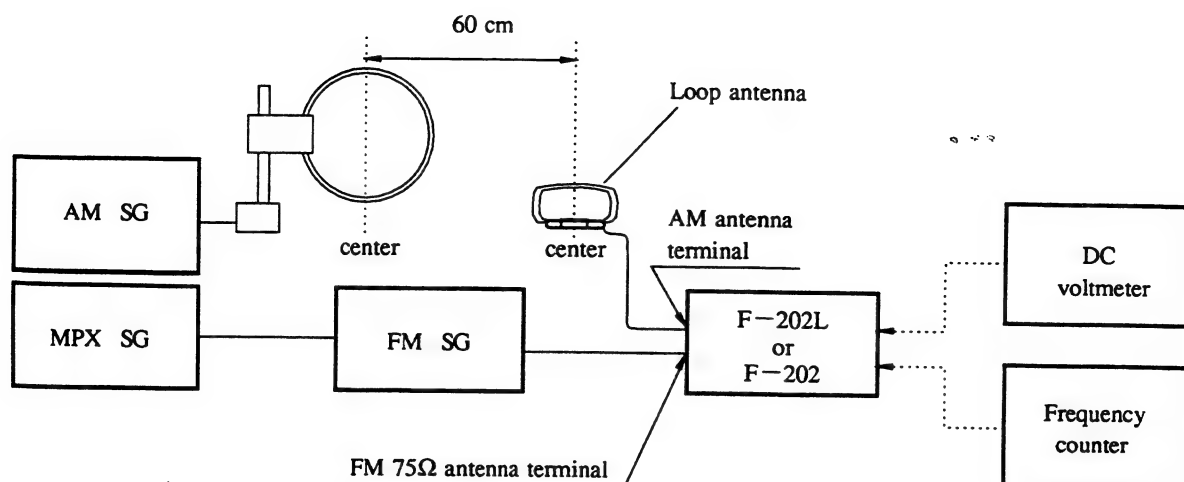


Fig. 1 Connection Diagram

TUNER Ass'y

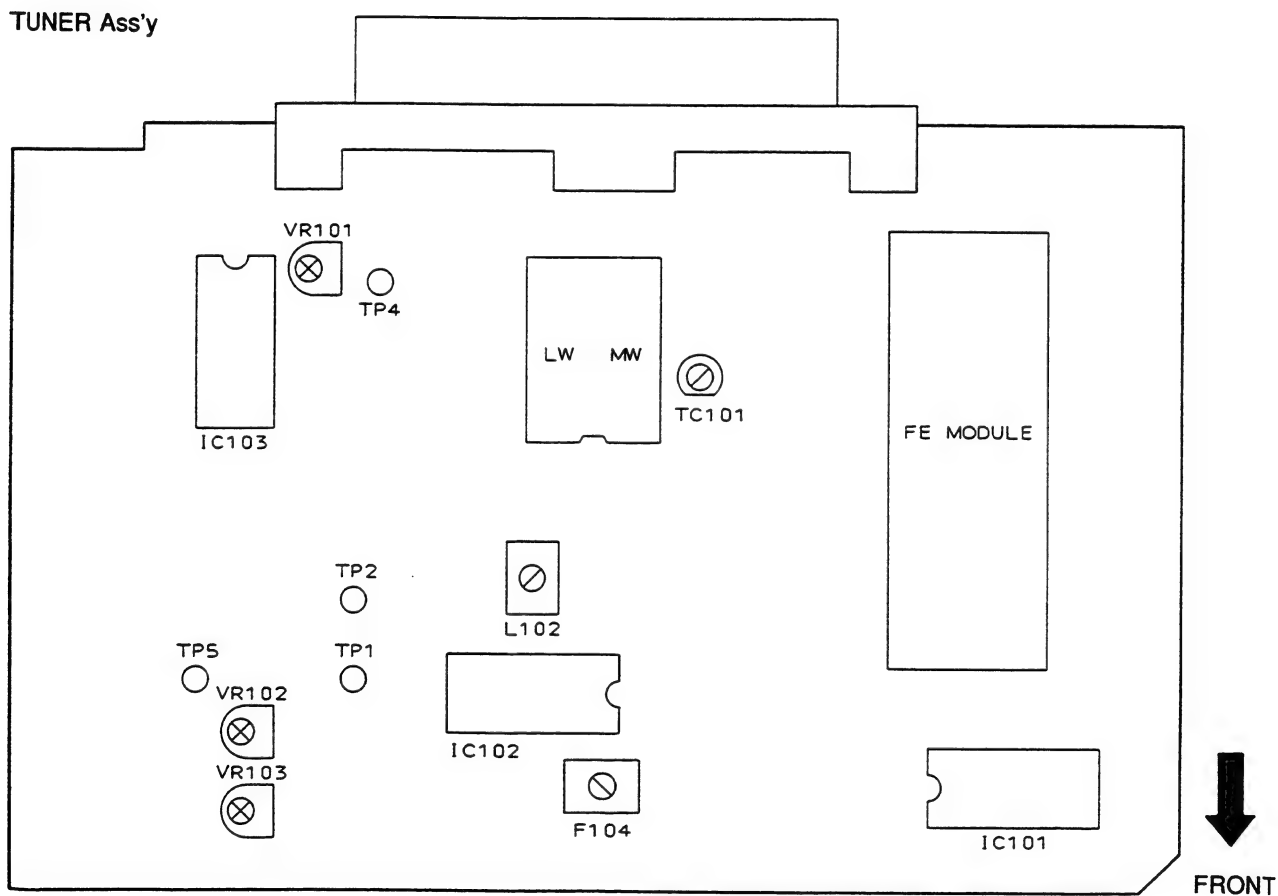


Fig. 2 Adjustment Points

7. FOR F – 202L/HBX1K, F – 202/HEWZX1K AND HEWIX1K

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

7.1 CONTRAST OF MISCELLANEOUS PARTS FOR F – 202L/HBX1K, F – 202/HEWZX1K AND HEWIX1K

F – 202L/HBX1K, F – 202/HEWZX1K, HEWIX1K and F – 202L/HEX1K have the same construction except for the following:

Mark	Symbol & Description	Part No.				Remarks
		F–202L HEX1K	F–202L HBX1K	F–202 HEWZX1K	F–202 HEWIX1K	
NSP	TUNER assembly TUNER assembly POWER assembly	AWE1278 AWZ4971 AWZ4976	AWE1278 AWZ4971 AWZ4976	AWE1276 AWZ4969 AWZ4974	AWE1277 AWZ4970 AWZ4975	Refer to page 6.
Δ	Earth screw	.....	.....	ABA1047	ABA1047
	AC power cord	ADG1138	ADG1130	ADG1138	ADG1138	
	FM antenna	ADH1005	ADH1005	.....	.....
	FM antenna assembly	.....	.....	ADH1002	ADH1002
	Packing case	AHD2550	AHD2550	AHD2549	AHD2549	
	Front panel	AMB2149	AMB2149	AMB2141	AMB2141	
	Operating instructions (English/German/French/Italian/ Swedish/Dutch/Spanish/Portuguese)	ARE1278	.....	.....	.....
	Operating instructions (English)	.....	ARB1432	.....	.....
	Operating instructions (German)	.....	.....	ARC1423	.....
	Operating instructions (Italian)	.....	.....	.....	ARC1424

TUNER ASSEMBLY

AWZ4969, AWZ4970 and AWZ4971 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		AWZ4971	AWZ4969	AWZ4970	
	C2	CKDYX103M25	
	C3	CKPUYB101K50	.....	.....
	C105	.....	CKDYB103K50	CKDYB103K50
	C108	CKPUYF473Z16	.....	.....
	C139	.....	CKDYB122K50	CKDYB122K50
	C140	.....	CEAS4R7M50	CEAS4R7M50
	C153,C154	CKDYB682K50	.....	.....

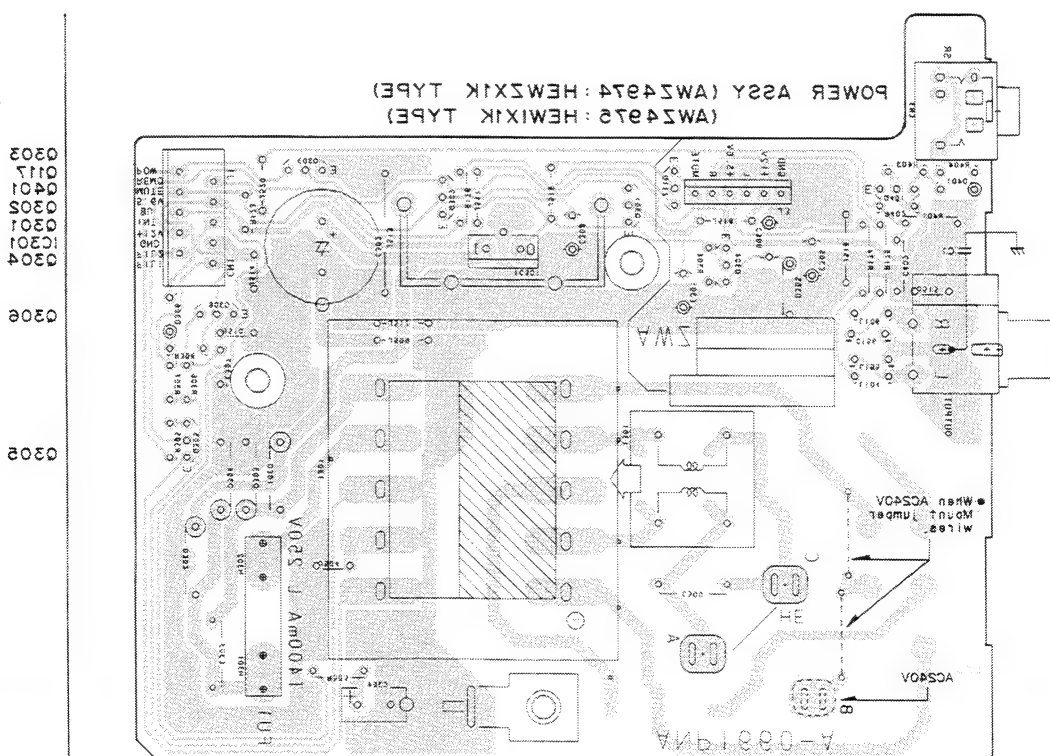
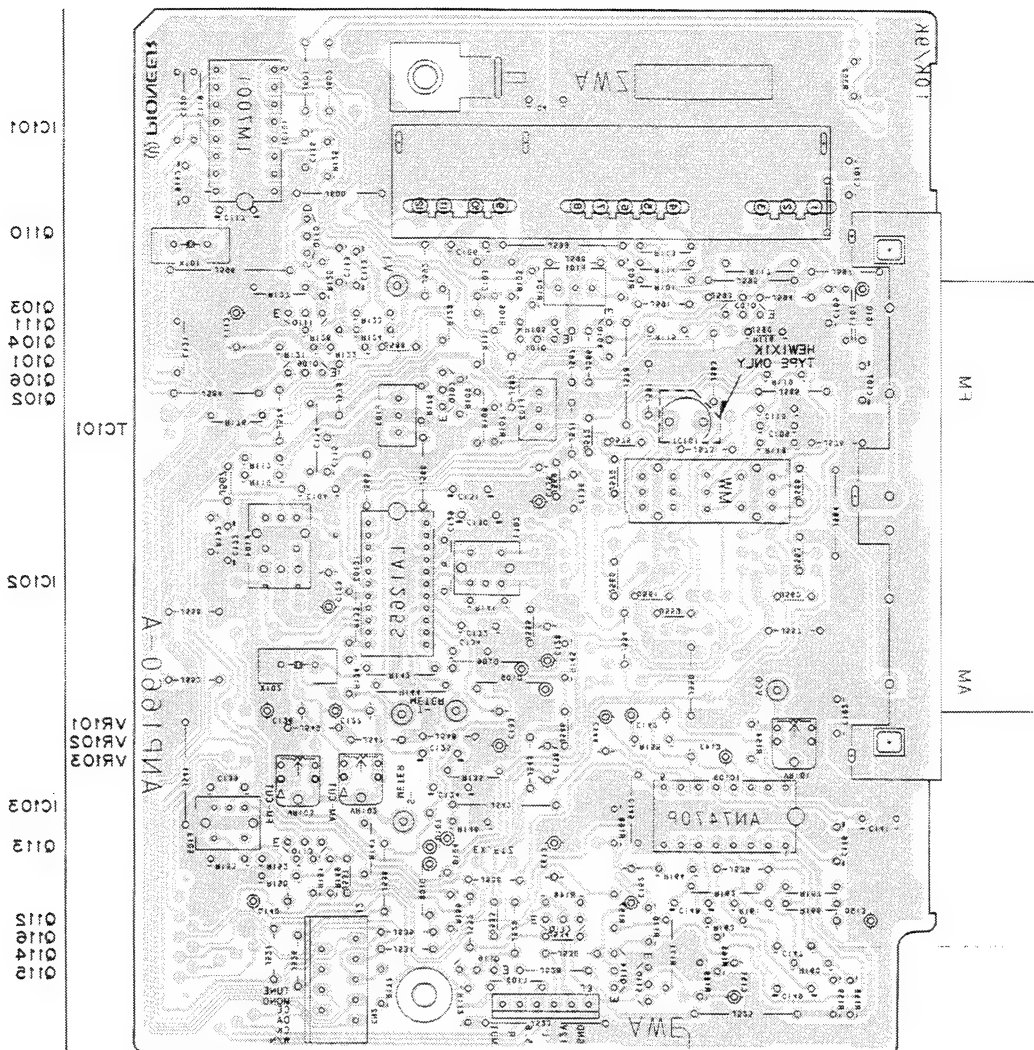
Mark	Symbol & Description	Part No.			Remarks
		AWZ4971	AWZ4969	AWZ4970	
	D101	.....	1SV156	1SV156	
	D102,D103	1SS252	.....	.....
	F105	.....	ATF1088	ATF1088	
	L101	.....	LAU2R2K	LAU2R2K	
	Q105,Q107,Q109,Q118	DTC143ES	.....	.....
	Q108	DTA124ES	.....	.....
	Q113	.....	2SC1740S	2SC1740S	
	R116	.....	RD1/8PM270J	RD1/8PM270J	
	R117	.....	RD1/2PM561J	RD1/2PM561J	
	R131	RD1/8PM103J	.....	.....
	R149	.....	RD1/8PM224J	RD1/8PM224J	
	R150	.....	RD1/8PM473J	RD1/8PM473J	
	R151	.....	RD1/8PM222J	RD1/8PM222J	
	R152	.....	RD1/8PM152J	RD1/8PM152J	
	R153	.....	RD1/8PM392J	RD1/8PM392J	
	R160	RD1/8PM623J	RD1/8PM683J	RD1/8PM683J	
	R168,R169	RD1/8PM242J	RD1/8PM912J	RD1/8PM242J	
	TC101	.....	.....	ACM - 018	
	Antenna terminal (PAL 4P)	AKA1010	.....	.....
	Antenna terminal (PAL 2P)	.....	AKA1012	AKA1012	
	3 serial FE module assembly	AXQ1003	.....	.....
	4 serial FE module assembly	.....	AXQ1004	AXQ1004	
	AM RF tuning block	AXX1026	AXX1025	AXX1027	

Note: 4 serial FE module assembly has no service part.

POWER ASSEMBLY

AWZ4974, AWZ4975 and AWZ4976 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		AWZ4976	AWZ4974	AWZ4975	
△	C1	.....	CKDYX103M25	CKDYX103M25	
	C155,C156	.....	CKDYB332K50	CKDYB392K50	
	C309	.....	ACG1002	ACG1002	
△	L104,L106	.....	LAU2R2K	LAU2R2K	
	L301	.....	ATF - 163	ATF - 163	

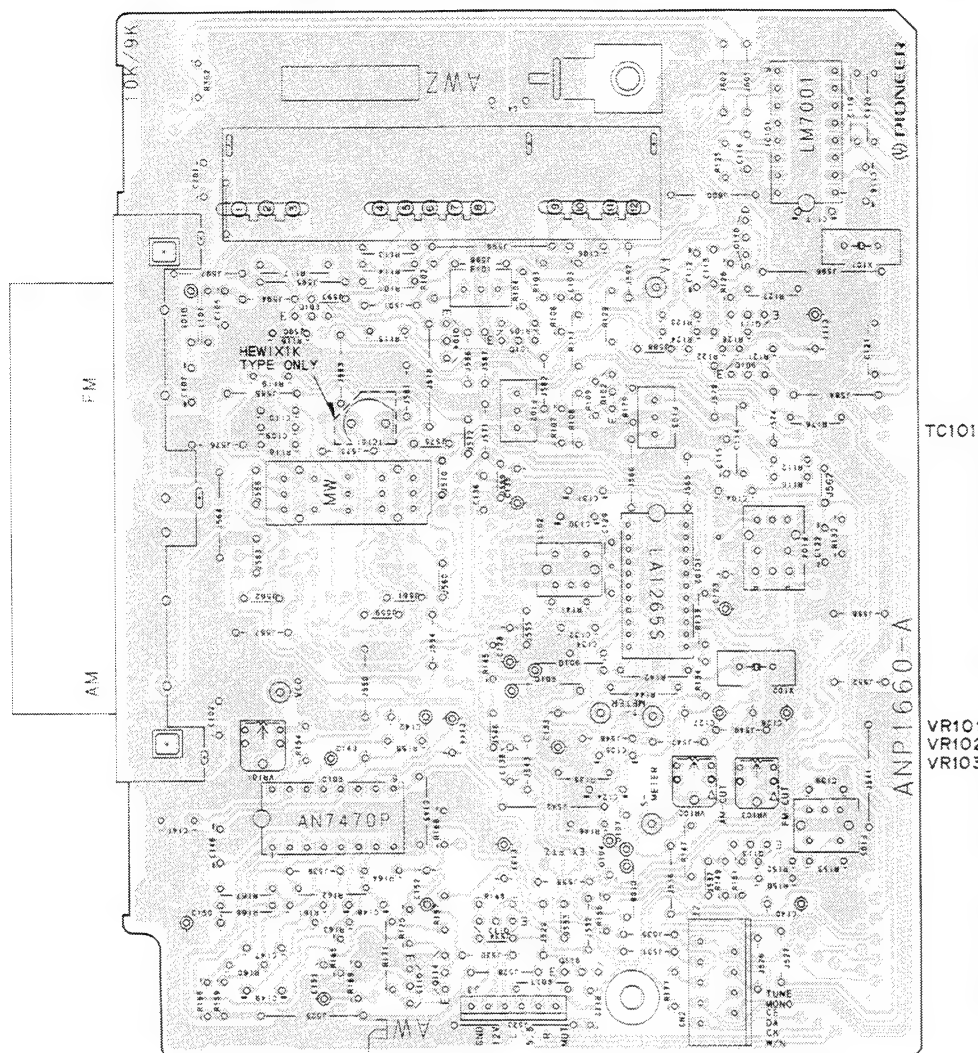


This P.C.B. connection diagram is viewed from the foil side.

7.2 PCB CONNECTION DIAGRAMS OF TUNER AND POWER ASSEMBLIES

TUNER ASSY (AWZ4969 : HEWZX1K TYPE)
(AWZ4970 : HEWIX1K TYPE)

PCB - 2



IC101

A

Q110

Q103
Q111
Q104
Q101
Q106
Q102

TC101

IC102

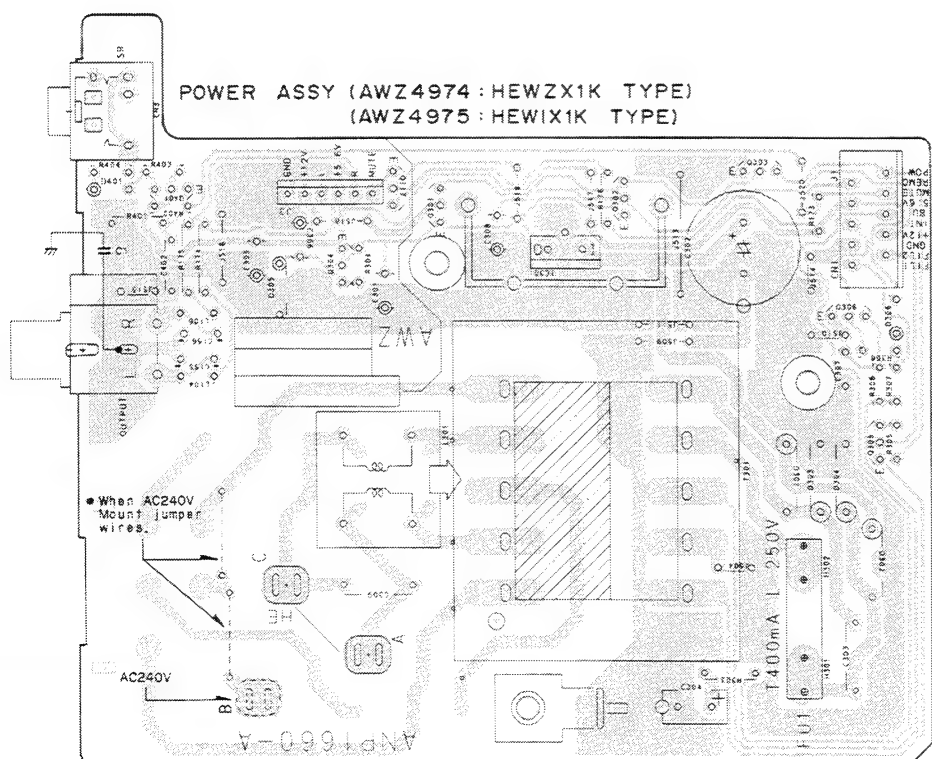
B

VR101
VR102
VR103

IC103

Q113

Q112
Q116
Q114
Q115



POWER ASSY (AWZ4974 : HEWZX1K TYPE)
(AWZ4975 : HEWIX1K TYPE)

Q303
Q117
Q401
Q302
Q301
IC301
Q304

Q306

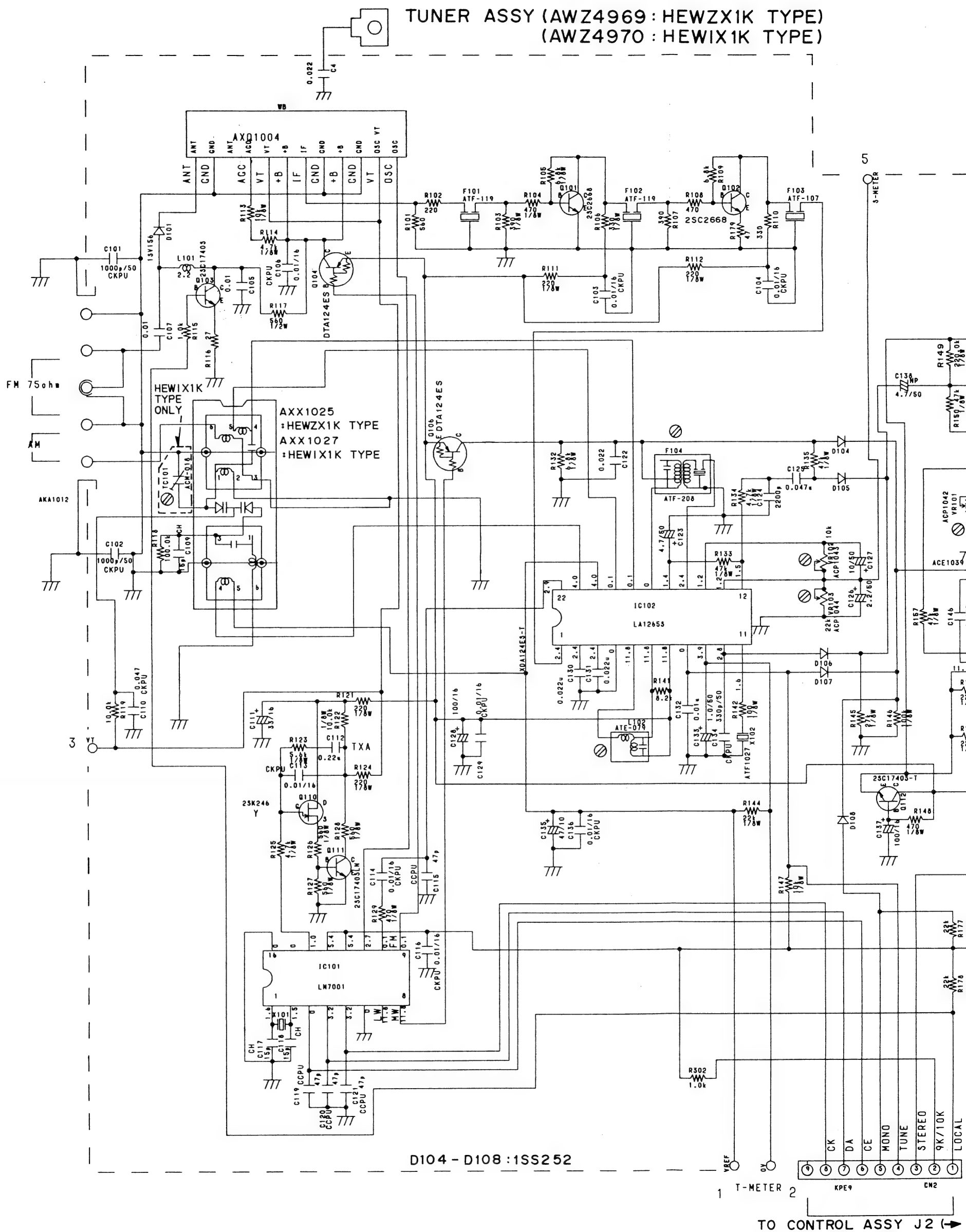
Q305

C

D

This P.C.B. connection diagram is viewed from the parts mounted side.

7.3 SCHEMATIC DIAGRAM OF TUNER AND POWER ASSEMBLIES
(FOR F-202/HEWZX1K AND HEWIX1K)

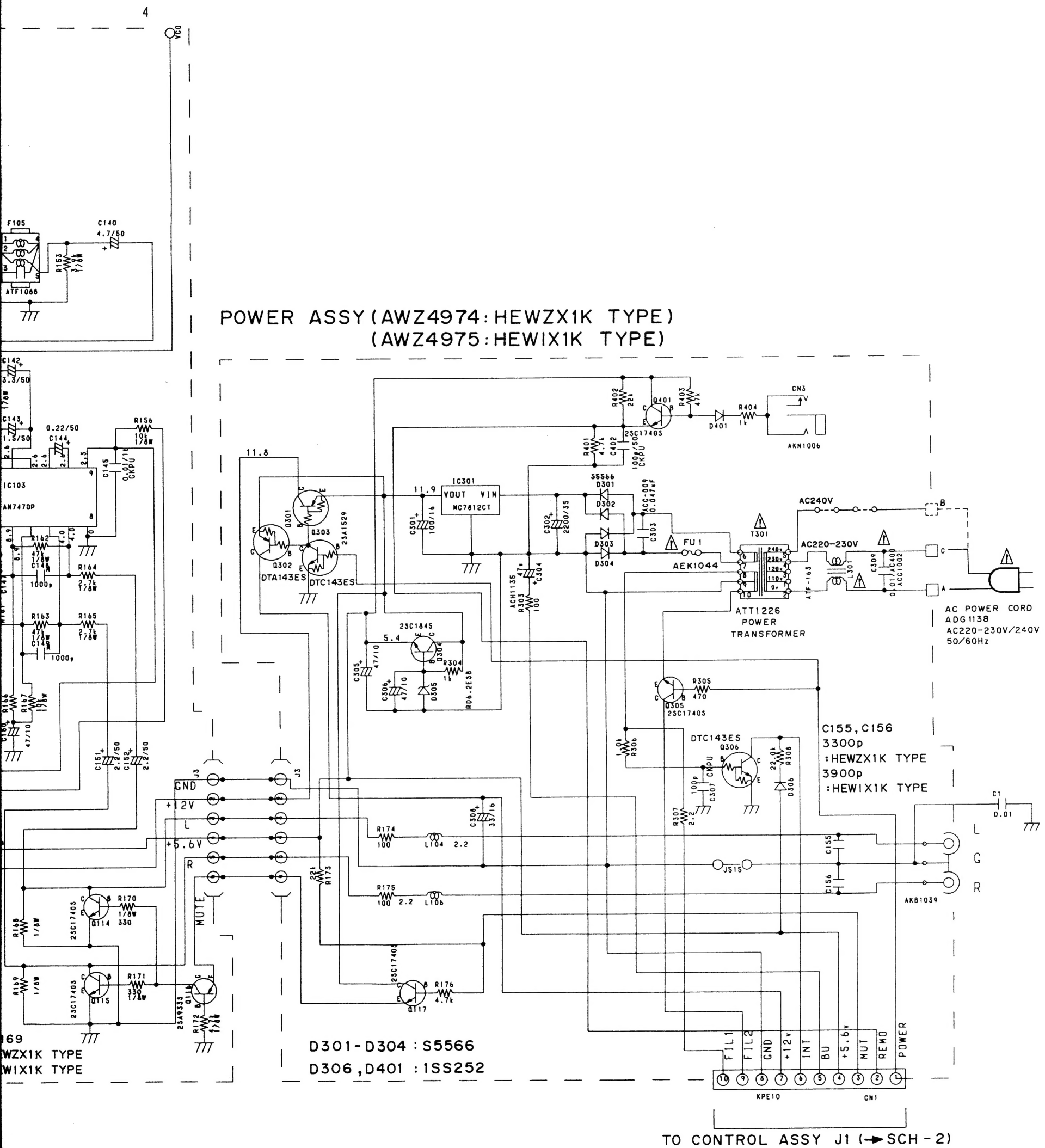


SCH-3

TUNER,
POWER ASSY

SCH-3

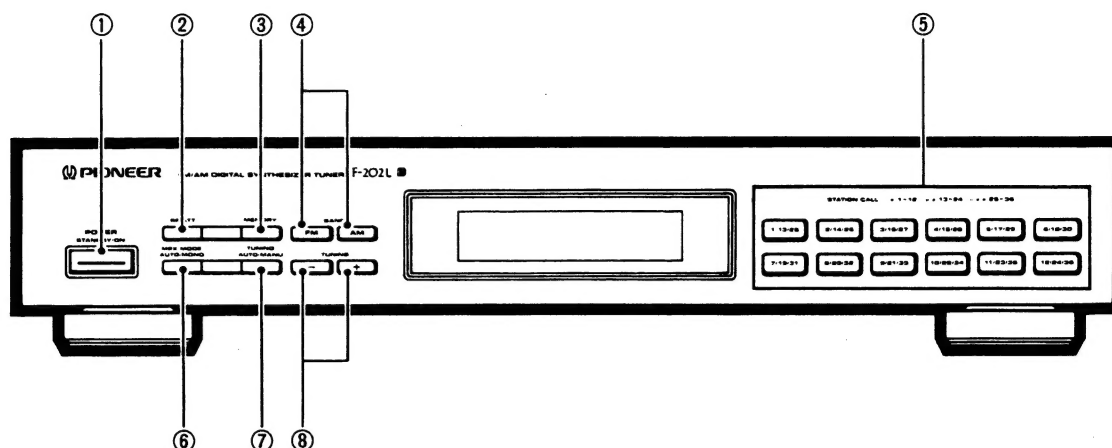
POWER ASSY (AWZ4974: HEWZX1K TYPE)
(AWZ4975: HEWIX1K TYPE)

TUNER,
POWER ASSY

SCH-3

8. PANEL FACILITIES

FRONT PANEL FACILITIES



① POWER (STANDBY/ON) switch

ON..... When set to the ON position, power is supplied and the unit becomes operational.

STANDBY... When set to STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

Disconnect the power cord from the power outlet when you do not plan to use the unit for a long period of time.

NOTE:

- The memory will be backed up so long as the power cord is not unplugged.
- If the power cord is unplugged, the memory will be retained for several days.

② RF ATT button

Set this button to ON when receiving strong FM signals (nearby stations) to reduce sound distortion. **RF ATT** indicator lights. Normally, this button should be set to OFF. This button does not affect AM reception.

NOTE:

This button's status is preset for each station in station memory.

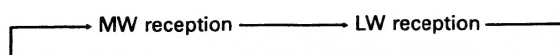
③ MEMORY button

This button is used to memorize stations. When the button is pressed, the frequency indicator will flash. To memorize the frequency of any station, press STATION CALL button while the frequency display is flashing.

④ BAND (FM/AM) selector buttons

These are used to select the band of the desired station.

(F-202L U.K. model) AM reception



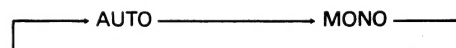
The bands change alternately each time the button is pressed.

⑤ STATION CALL buttons

These are used to preset stations and to recall a already prese station.

⑥ MPX (multiplex) MODE AUTO/MONO button

Mode changes as follows each time this button is pressed:



This button does not affect AM reception.

AUTO:

Depending on the broadcast station, STEREO, or MONO is automatically selected.

NOTE:

When the signal level is too weak for reception, sound output is automatically muted.

MONO:

To receive stereo broadcasts in monaural.

"MONO" indicator lights up.

NOTE:

This button's status is preset for each station in station memory.

⑦ TUNING AUTO/MANU (Manual) button

Use to select either the auto tuning mode or manual tuning mode for FM/AM reception.

(When the auto tuning mode is selected, AUTO indicator will now light.)

NOTE for F-202L:

Auto tuning is not possible on the LW band.

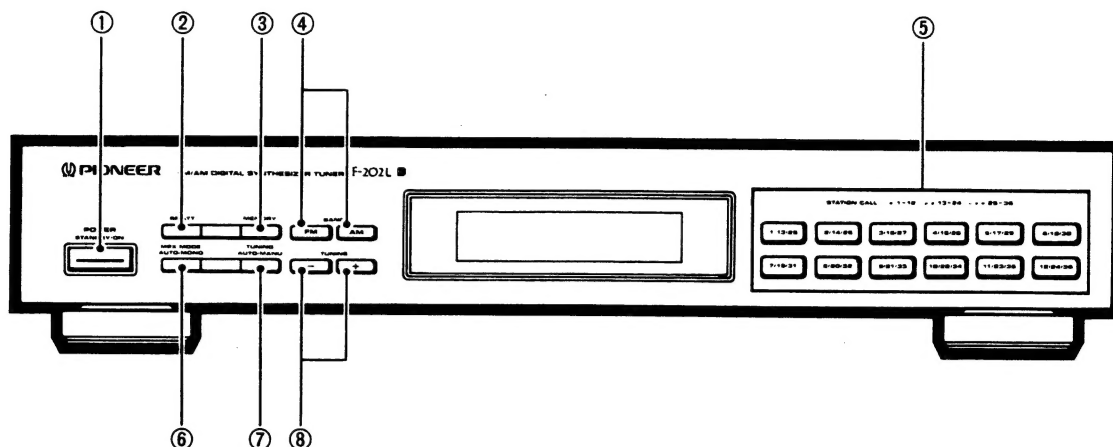
⑧ TUNING (- (down)/ + (up)) buttons

These are used to locate the stations.

Push the "-" button to go to a lower, and the "+" button to go to a higher frequency.

8. PANEL FACILITIES

FRONT PANEL FACILITIES



① POWER (STANDBY/ON) switch

ON..... When set to the ON position, power is supplied and the unit becomes operational.

STANDBY... When set to STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

Disconnect the power cord from the power outlet when you do not plan to use the unit for a long period of time.

NOTE:

- The memory will be backed up so long as the power cord is not unplugged.
- If the power cord is unplugged, the memory will be retained for several days.

② RF ATT button

Set this button to ON when receiving strong FM signals (nearby stations) to reduce sound distortion. **RF ATT** indicator lights.

Normally, this button should be set to OFF. This button does not affect AM reception.

NOTE:

This button's status is preset for each station in station memory.

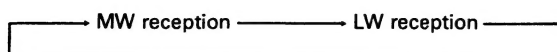
③ MEMORY button

This button is used to memorize stations. When the button is pressed, the frequency indicator will flash. To memorize the frequency of any station, press STATION CALL button while the frequency display is flashing.

④ BAND (FM/AM) selector buttons

These are used to select the band of the desired station.

(F-202L U.K. model) AM reception



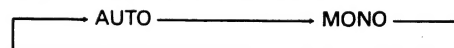
The bands change alternately each time the button is pressed.

⑤ STATION CALL buttons

These are used to preset stations and to recall a already prese station.

⑥ MPX (multiplex) MODE AUTO/MONO button

Mode changes as follows each time this button is pressed:



This button does not affect AM reception.

AUTO:

Depending on the broadcast station, STEREO, or MONO is automatically selected.

NOTE:

When the signal level is too weak for reception, sound output is automatically muted.

MONO:

To receive stereo broadcasts in monaural.

"MONO" indicator lights up.

NOTE:

This button's status is preset for each station in station memory.

⑦ TUNING AUTO/MANU (Manual) button

Use to select either the auto tuning mode or manual tuning mode for FM/AM reception.

(When the auto tuning mode is selected, AUTO indicator will now light.)

NOTE for F-202L:

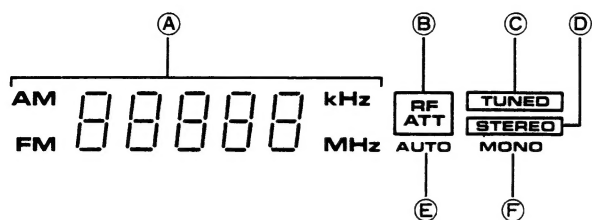
Auto tuning is not possible on the LW band.

⑧ TUNING (- (down)/ + (up)) buttons

These are used to locate the stations.

Push the "-" button to go to a lower, and the "+" button to go to a higher frequency.

Display section



A Frequency display

Shows received broadcast frequency. Also gives scrolling display of main function status. The FM band is indicated by MHz, and the AM band by kHz.

B RF ATT indicator

Lights when the RF ATT button is set to on.

C TUNED indicator

Lights when a broadcast is received and tuned in well.

D STEREO indicator

Lights when a stereo broadcast is received. (The indicator does not light when the MPX MODE AUTO/MONO button is set to MONO.)

E AUTO indicator

Lights when the TUNING AUTO/MANU button is set to AUTO.

F MONO indicator

Lights when the MPX MODE AUTO/MONO button is set to MONO.